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(12) United States Patent

Bailey, Sr. et al.

(54) ERGONOMIC SYSTEMS AND METHODS PROVIDING INTELLIGENT ADAPTIVE SURFACES

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(57) ABSTRACT

Ergonomic systems which provide medical therapy, comfort and enhanced function are provided. Surfaces are provided with adjustable contour, transient force damping and temperature. The technologies are applied to footwear, seating surfaces an cryotherapy devices. The cooling and cryotherapy system employ an evaporator in close proximity to skin, and therefore employ methods to reduce risk of frostbite. Advanced control and power supply options are disclosed.

24 Claims, 35 Drawing Sheets

